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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,079	09/19/2003	Brent O'Meagher	TRMB1400	8440

  

EXAMINER	
SHEDRICK, CHARLES TERRELL	

  

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7590 11/14/2007  
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/666,079

Applicant(s)

O'MEAGHER, BRENT

Examiner

Charles Shedrick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8,10-18,20-28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eschenbach US Patent No.: 6,324,473 B1 in view of Robbins US Patent Pub. No.: 2002/198657 A1

Consider **claim 1**, Eschenbach teaches a method for delivering Virtual Reference Station (VRS) data derived by a VRS network processor at a VRS control station for a designated location to a mobile position determination unit with a terrestrial communications link ( **see at least col. 7 lines 22-34**), said method comprising: creating a data message comprising pseudorange data derived for said designated location and pseudorange corrections for a designated region surrounding said designated location (**col. 7 lines 52-60**); sending said data message via a connection from said VRS control station to a base station located in the designated region

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surrounding said designated location ( **fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**); and transmitting said data message from said base station to a mobile position determination unit using a radio transmitter independent of said connection (**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**), wherein said base station may be moved about within said designated region while performing said transmitting (**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**).

However, Eschenbach does not explicitly teach a cellular phone connection/network.

In analogous art, Robbins teaches cellular phone connection (**paragraph 0058**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include the cellular phone connection as taught by Robbins for the purpose of data delivery.

Consider **claim 11**, Eschenbach teaches a system for delivering Virtual Reference Station (VRS) data comprising:

a VRS control center for creating a data message comprising pseudorange data derived for a designated location and pseudorange corrections for a designated region surrounding said designated location (**col. 7 lines 52-60**); a moveable base station located in said designated region surrounding said designated location (**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**), said base station for receiving said data message from said VRS control center via a connection and for transmitting said data message using a radio transmitter independent of said connection(**fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**), wherein said moveable base station may be moved about within said designated region while transmitting said data message(**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**); and a mobile position determination unit for receiving said data message from said base station(**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**).

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However, Eschenbach does not explicitly teach a cellular phone connection.

In analogous art, Robbins teaches cellular phone connection (**paragraph 0058**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include the cellular phone connection as taught by Robbins for the purpose of data delivery.

Consider **claim 21**, Eschenbach teaches a method for delivering Virtual Reference Station (VRS) data comprising: collecting data from a plurality of reference stations to derive pseudorange data for a designated location and to derive pseudorange corrections for a designated region surrounding said designated location (**col. 7 lines 52-60**); sending a data message comprising the pseudorange data and the pseudorange corrections to a base station via a network (**fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**), and wherein said base station is located in said designed region surrounding said designated location( **fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**); and transmitting said data message from said base station to a mobile position determination unit located in said designated region surrounding said designated location using a radio transmitter independent of said network(**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**), wherein said base station may be moved about within said designated region while performing said transmitting(**col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**).

However, Eschenbach does not explicitly teach a cellular phone connection/network.

In analogous art, Robbins teaches cellular phone connection (**paragraph 0058**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include the cellular phone connection as taught by Robbins for the purpose of data delivery.

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Consider **claims 2, 12, and 22** and as applied from **claims 1, 11, and 21**, Eschenbach as modified by Robbins teach the claimed invention including implicitly teaching wherein said VRS control center receives a request for said Virtual Reference Station data and further comprising (see **figure 5**):

deriving the pseudorange data and the pseudorange corrections in response to receiving said request (see **figure 5**).

Consider **claims 3, 13, and 23** and as applied from **claims 2, 12, and 22**, Eschenbach as modified by Robbins teach the claimed invention further comprising: receiving said request from said base station (see **figure 5. col. 11 line 65- col. 12 line 5**).

Consider **claims 4, 14, and 24** and as applied from **claims 3, 13, and 23**, Eschenbach as modified by Robbins teach the claimed invention further comprising:  
initiating said request in response to receiving a message from said mobile position determination unit (**fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**).

Consider **claims 5, 15, and 25** and as applied from **claims 3, 13, and 23**, Eschenbach teach the claimed invention further comprising: receiving said request from said mobile position determination unit (**figure 6, col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**); establishing said connection with said base station (**fig. 6 col. 13 lines 35-56, col. 14 lines 29-34**); and requesting a position fix of said designated location (**figure 6, col. 8 lines 16-24, col. 11 lines 66- col. 12 line 4**).

However, Eschenbach does not explicitly teach a cellular phone connection/network.

In analogous art, Robbins teaches cellular phone connection (**paragraph 0058**).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include the cellular phone connection as taught by Robbins for the purpose of data delivery.

Consider **claims 6, 16, and 26** and as applied from **claims 1, 11, and 21**, Eschenbach as modified by Robbins teach the claimed invention further comprising: utilizing a global positioning system (GPS) receiver to determine a position fix of said designated location (**col. 8 lines 14-24**).

Consider **claims 7, 17, and 27** and as applied from **claims 6, 16, and 26**, Eschenbach as modified by Robbins teach wherein said GPS receiver is disposed in said mobile position determination unit and wherein said method further comprises: locating said mobile position determination unit proximate to said base station (**col. 11 line 66- col. 12 line 4, col. 13 line 35 - 56**); and utilizing said mobile position determination unit to determine and position fix (**col. 11 line 66- col. 12 line 4, col. 13 line 35 -56**).

Consider **claims 8, 18, and 28** and as applied from **claims 6, 16, and 26**, Eschenbach teach the claimed invention except wherein said base station comprises a real-time kinematics (RTK) base station and wherein said method further comprises: communicatively coupling said radio transmitter with a cellular communications device.

However, in analogous art Robbins teaches the method wherein said base station comprises a real-time kinematics (RTK) base station and wherein said method further comprises: communicatively coupling said radio transmitter with a cellular communications device (i.e., using the Trimble Navigation limited products disclosed by Robbins to obtain GPS corrections for RTK, you need your own base station that is no more than ten kilometers from the field you

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are working in. Trimble Navigation limited further states that for DGPS, you can use your own base station, a correction service provider, or make use of the free radio beacon broadcasts in many regions. Therefore in conjunction with a GSM network system for cellular distribution Robbins clearly describes the method above) (**paragraph 0062-0067**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include Robbins for the purpose of producing GPS corrections.

Consider **claims 10, 20, and 30** and as applied from **claims 1, 11, and 21**, Eschenbach teach the claimed invention except wherein said transmitting comprises selecting a frequency from a group of frequency ranges consisting of 150 MHz - 170 MHz and 450 MHz - 470 MHz.

However, in analogous art Robbins teach a method wherein said transmitting (i.e., via the Distribution System DS 110) comprises selecting a frequency from a group of frequency ranges consisting of 150 MHz – 170 MHz and 450 MHz - 470 MHz (i.e., VHF/ UHF support the data transfer rates needed 120 bits per second or better)(**paragraph 0058**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Eschenbach to include Robbins for the purpose of producing GPS corrections.

Claims 9,19, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eschenbach US Patent No.: 6,324,473 B1 in view of Robbins US Patent Pub. No.: 2002/198657 A1 in view of **Friedman (W0 01/50151 A1)**

Consider **claims 9, 19, and 29** and as applied from **claims 8, 18, and 28**, Eschenbach as modified by Robbins teach the claimed invention except wherein said radio transmitter



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comprises a Bluetooth communications device, and wherein said method further comprises:  
sending said data message to said mobile position determination unit using said Bluetooth communications device.

In the same field of endeavor, Friedman discloses a radio transmitter **54**(**figure 6**) **75** (**figure 7**) comprises a Bluetooth communications device **70** (**figure 7**), and wherein said method further comprises sending a data message to said mobile position determination unit **50** (i.e., mobile DSP)(**figure 7**) using said Bluetooth communication device (**figure 7**).

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to include a Bluetooth communication device in a transmitter as taught by Friedman for the purpose of improving location determination in areas that are not covered by other wireless means.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick  
AU 2617  
November 6, 2007

  
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SUPERVISORY PRIMARY EXAMINER